

Navigation Guide

to Oil & Gas Development Projects
in Garfield County

Oil & Gas Navigation Guide

Garfield County, Colorado

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Oil & Gas Navigation Guide

Garfield County, Colorado

Why do we need a guide?

In 2005, natural gas drilling and production activity in Garfield County increased significantly with unprecedented levels of infrastructure projects being constructed to explore and produce natural gas from “field to market.” In addition, there were new operators coming into the county that were not familiar with Garfield County land use regulations, and it became apparent that there was a disconnect between the terminology that operators used for their projects and how those projects were defined and treated within Garfield County’s land use regulations.

This resulted in a communication gap, whereby some operators did not understand what the county regulated, and the Garfield County Community Development Department staff did not fully understand the language and terms of the projects being developed by the natural gas industry. In order to bridge this gap, the Community Development Department worked with industry operators and related consulting firms to author the *Navigation Guide to Oil and Gas Development Projects in Garfield County*.

Since that time, the county adopted revised land use regulations in 2008 and again in 2013, the Colorado Oil and Gas Conservation Commission has revised its rules, and industry practices continue to evolve and change. As a result, the Community Development Department has updated this guide to address the regulatory changes that have been adopted as of September 2, 2014.

The purpose of this document is to serve as a guide for project proponents to navigate the county’s land use regulations, known as the Land Use and Development Code (LUDC). More specifically, this guide categorizes typical natural gas activities and assigns them to the appropriate use types as defined by the LUDC. Additionally, the document outlines the level of review required for that land use. This document is intended to serve only as a guide, while the required regulations are contained within the LUDC.

The complete Land Use and Development Code can be accessed on the Garfield County website at: <http://www.garfield-county.com/community-development/land-use-regulations.aspx>.

Where to start?

First, it is critical to determine whether or not an activity or use requires a Land Use Permit. The county recognizes that industry employs a large array of different techniques, equipment and approaches for both drilling and production of natural gas within the county. That said, with regularity, the county receives inquiry about some common uses as listed in figure 1. This table shows the industry activity as it compares to the county’s LUDC definition for the activity, and whether or not the county requires a permit for the activity or use in at least one or more of its zone districts.

Industry Name	County Definition	County Permit
Bioremediation Land Farm	Material Handling, Processing, Storage	Yes*
COGCC Location (Well Pad, Etc.)	Oil and Gas Drilling and Production (location with less than 5,000 barrels of tank storage)	No
COGCC Location (Well Pad, Etc.)	Oil and Gas Drilling and Production (location with 5,000 or more barrels of tank storage)	Yes*
Communications Towers	Telecommunications Facility	Yes*
Compressor / Compressor Stations	Compressor/Pipeline Pump Station not subject to Article 9 review	Yes*
Construction Material Mining	Extraction, Mining and Other	Yes*
Contractor's Yard	Contractor's Yard, Small Contractor's Yard, Large	Yes* Yes*
Drill Cuttings Storage Facility	Material Handling, Storage, Processing with Greater than 100,000 cubic yards 100,000 cubic yards or Fewer	Yes* No
Gas Lift/ Booster Compressor	Compressor, Booster Oil and Gas Drilling and Production	Yes* No
Grading	Grading	Yes
Hydraulic Fracturing "Fracing"	Hydraulic Fracturing, Remote Surface Location	No
Injection Well	Injection Well, Piped Injection Well, Small Injection Well, Large	Yes* Yes* Yes*
Laydown Yards /Staging Area	Storage	Yes
Pipelines	Pipelines (greater than 5 miles, or 2 miles and 12 inches in diameter)	Yes
Natural Gas Processing Facilities	Material Handling, Processing	Yes*
Office Facility	Professional Office Professional Office, Temporary Construction Trailer	Yes* Yes* No
Roads	Access Route (to an Approved APD) Access Route	No Yes*
Solid Waste Disposal	Processing & Material Handling	Yes*
Temporary Employee Housing	Small, Minor, Major Temporary Employee Housing	Yes*
Water (Fresh or Produced) Storage (Ponds, Tanks, etc.)	Water Impoundments Water Impoundments (5,000 barrels or fewer as part of Oil and Gas Drilling and Production)	Yes* No
Water Pumping Facility	Compressor/Pipeline Pump Station Not subject to Article 9 Review	Yes*
Water Treatment Facility	Processing, Water Impoundments	Yes*
Well Pad	Oil and Gas Drilling and Production	No

*a land use change permit may be required depending on the zone district of the property

Figure 1: Garfield County Permitting Requirements

What is your zoning?

If it has been determined that a permit is necessary, the next step is to determine the review process that is required. To do this, one must know the zoning of the property where the project will occur. All land in Garfield County is classified into one of 12 zone districts (not including the Public Airport and PUD zone districts). Depending upon the zone district, certain uses may be allowed by-right, allowed based upon review, or prohibited. If the use is allowed based upon review, the county's land use table (Table 3-403 in the LUDC) indicates which review process is applicable for that specific use.

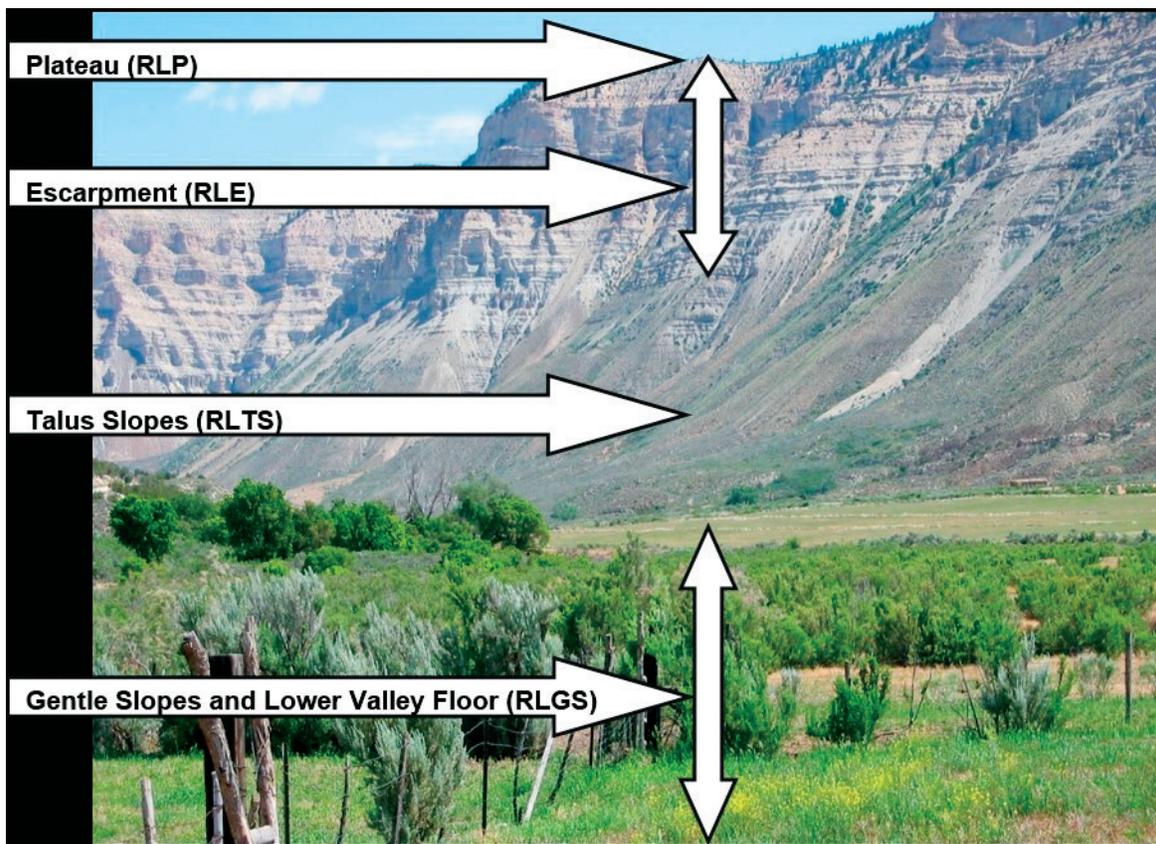


Figure 2: Resource Lands Sub-Districts

The majority of natural gas activity currently occurs in the Public Lands (PL), Rural (R) or Resource Lands (RL) Zone Districts. More specifically, the Resource Lands Zone District is split into four sub-districts, including the Gentle Slopes, Talus Slopes, Escarpment, and Plateau as shown in Figure 2, and each sub district has its own set of permitted and prohibited uses, and review processes. The county keeps an Official Zone District Map which can be viewed online at: <http://www.garfield-county.com/community-development/planning-division.aspx>.

Which review is required?

Once a property's zoning has been identified, an applicant needs to review the Use Table (Table 3-403) in the LUDC to determine which review process is required.

In the Use Table, land uses and activities are classified into general "use categories" and specific "use types", based on common function, product, or physical characteristic, such as the type and amount of an activity, the type of customers or residents, how goods or services are sold or delivered and site conditions. The classification does not list every use or activity that may appropriately exist within each category, and specific uses may be listed in one category when they may reasonably have been listed in one or more other categories.

The following table can be used to determine what may be allowed, prohibited or the type of review that will be required. Figure 3 is a condensed version of the full LUDC Table 3-403 that contains typical industry-related uses, and is used to determine what may be allowed, prohibited or the type of review that may be required.

Table 3-403: Use Table														
/P/ By Right /A/ Administrative Review /L/ Limited Impact Review /M/ Major Impact Review /●/ Exempt from County Review and Standards														
Use Category	Use Type	Residential Districts				Nonresidential Districts				Resource Land Zone Districts				Unless exempted, all uses must comply with Article 7 Standards including Use-Specific Standards.
		R	RS	RU	RM HP	CL	CG	I	PL	RL P	RL E	RL TS	RL GS	
RESIDENTIAL USES														
Temporary	Employee Housing Facility, Major	M	M	M	M	M	M	M	●	L	L	L	L	7-705
	Employee Housing Facility, Minor	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹	●	A ¹	A ¹	A ¹	A ¹	7-706
	Employee Housing Facility, Small	P	P	P	P	P	P	P	●	P	P	P	P	7-707
PUBLIC/INSTITUTIONAL USES														
Transportation	Access Route	A	A	A	A	A	A	A	●	P	P	P	P	
INDUSTRIAL USES														
Extraction	Compressor/Pipeline Pump Station (Not Subject to Article 9)	L	L					L	●	L	L	L	L	7-1001
	Compressor, Booster	A	A	A	A	A	A	A	●	P	P	P	P	
	Extraction, Mining and Other	M						L	L	L	L	L	L	7-1001, 7-1003
	Hydraulic Fracturing, Remote Surface Location	P	P	P	P	P	P	P	●	P	P	P	P	EXEMPT
	Injection Well, Piped	P	A					P	●	P	P	P	P	7-1001
	Injection Well, Small	A	A					P	●	P	P	P	P	7-1001
	Injection Well, Large	L	L						●	P	P	P	P	7-1001
	Oil and Gas Drilling and Production	P	P	P	P	P	P	P	●	P	P	P	P	EXEMPT
Service	Contractor's Yard, Small	A				P	P	P	●	A	A	A	A	7-1001
	Contractor's Yard, Large	M				P	P	P	●	L		L	L	7-1001
	Material Handling	L					L	L	●	A	A	A	A	7-1001
	Processing	L				L	L	L	●	A	L	A	A	7-1001
	Processing, Temporary	A				A	A	A	●	A			A	7-1001
	Vehicles, Machinery, and Heavy Equipment	M						M	●	L			M	7-1001
	Vehicle Safety Area	A							●	P			P	7-1007
Warehouse and Freight Movement	Storage	L				P	P	P	●	A	A	A	A	7-1001
	Storage, Hazardous Materials	M				M	M	M	●	L			L	7-1001
Waste and Salvage	Mineral Waste Disposal Areas	L						L	●	L	L	L	L	7-1001
	Water Impoundment	L						L	●	L	L	L	L	7-1001

¹ Review and decision of an application is completed administratively, but is subject to the process set forth in section 4-107
² Review and decision of an application is completed administratively, but is subject to the process set forth in section 9-103.
³ Telecommunication Facilities 100 feet or less in height are By Right uses. A Facility over 100 feet shall be subject to an Administration Review.

Figure 3: Portion of Use Table 3-403

What do the letters mean?

If the zone district indicates a “P” for a use, it means it is “Permitted” and is a by-right use that does not require review or a Land Use Change Permit (LUCP) by the county. If the column is blank, it means the use is “Prohibited.” If the column contains an “A,” “L,” or “M,” a LUCP is required. An “A” indicates an “Administrative” review process is applicable, an “L” requires a “Limited” review, and an “M” requires a “Major” review. Though information required to be submitted for a complete application is generally consistent among the different reviews, the process and decision-maker varies.

P: Permitted or by-right use: Not subject to Garfield County planning review and does not need a Land Use Change Permit.

A: Administrative Review: Review process by which the Director of the Community Development Department is the decision-maker. Generally, a change in land use that will have minimal impact on adjacent properties is subject to the Administrative Review process set forth in Section 4-103.

L: Limited Impact Review: A change in land use that will have limited or minimum impact is subject to the Limited Impact Review process set forth in Section 4-104. In this review process the Board of County Commissioners is the decision-maker. The process is intended for developments which generally are more complex and may have some impact to the surrounding community and environment.

M: Major Impact Review. A change in land use that will have significant impact is subject to the Major Impact Review process set forth in Section 4-105. In this review process the Board of County Commissioners is the decision-maker, but a review and recommendation is required by the Planning Commission. The process is intended for more complex development which may have significant impacts to the surrounding community and environment.

Blank: The use is prohibited, which means you can't put the use on that property.

My use needs a land use change permit. What's next?

Scheduling a pre-application conference with a Garfield County planner is the first step in the review process. The purpose of the required pre-application conference is for a county planner to provide guidance on the procedural steps, as well as the submittal information that will be required of the applicant to apply for a Land Use Change Permit. Following the conference, the planner will prepare a pre-application conference summary that outlines the specific steps and submittal requirements that will be required for each project. In general, the following describes the typical land use change permit application process:

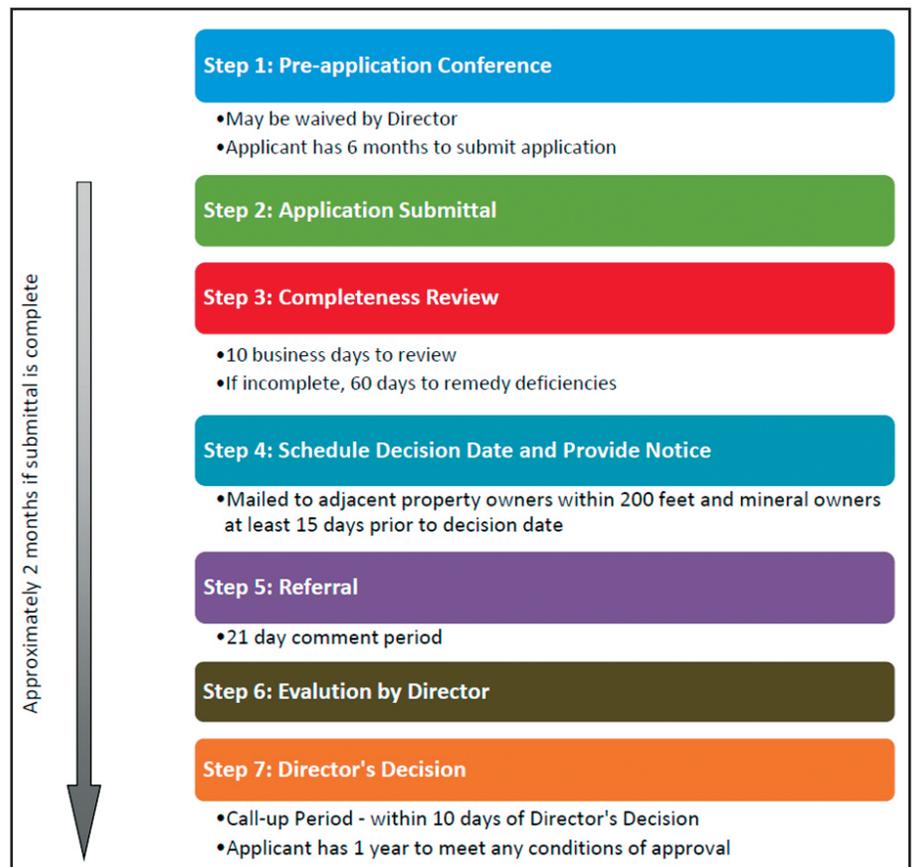


Figure 4: Administrative Review Flow Chart

Land Use Change Permit process

Pre-Application Meeting The applicant shall setup a pre-application meeting with a Garfield County planner. It is helpful if the applicant comes prepared with a full description of the proposed project, the submittal items that they anticipate needing to submit, and any waivers they know that they would like to request. After the meeting, the planner will provide a pre-application summary document noting the applicable review process and application submittal documentation.

Application Submittal The applicant prepares the application documents and submits three copies to the Community Development Department.

Completeness Review The application is assigned to a planner and undergoes a “Completeness Review.” This period is either 10 or 20 business days, depending on application type.

- a. If application is not found to be complete, the planner will provide a letter to the applicant addressing the submittal deficiencies. The applicant has 60 days to submit additional materials in order to remedy the submittal deficiencies.
- b. If application is deemed complete, the planner provides the applicant with the number of additional copies that will be needed, the date of the hearing (or decision) and the information needed for the applicant to complete the required public notice.

Referrals After a determination of completeness, the county sends out the application to applicable referral agencies for their comments and the planner begins the content review of the application.

Public Hearing(s) The planner will set Public Hearing dates, if applicable, and the applicant is responsible for ensuring that proper notice is completed.

Decision Depending on the level of review, the application will require either a Director’s Decision (for an Administrative Review), a Board of County Commissioner Decision (for a Limited Impact Review), or a review and recommendation by the Planning Commission followed by a Decision by the Board of County Commissioners (for a Major Impact Review).

Decision Documentation A Director’s Decision will be put in writing and transmitted to the applicant. A final decision by the BOCC will be memorialized in a signed and recorded resolution. Should there be conditions of approval, the applicant will have one year to submit evidence that all conditions have been met.

Extension of Approval A request can be made to extend the period of time for demonstrating compliance with conditions. A request must be submitted and heard in front of the BOCC (or Director) prior to the expiration of approval.

Permit Issuance Upon the demonstration that all conditions of approval have been met, the planner will prepare a Land Use Change Permit for the BOCC or Director to sign and record. Construction and/or operation may only begin after the Land Use Change Permit has been issued.

What other permits might I need?

In addition to the Land Use Change Permit requirements described in this document and detailed in the LUDC, there are permitting requirements from other Garfield County departments that may apply to a specific project. Some of the other potential permitting requirements are described below (this list is not inclusive of all possible requirements as each project is based on site-specific factors):

Building Permits Any project that involves the construction of buildings that are subject to the county's Building Code will require approval of building permits in addition to the appropriate Land Use Change Permit. Generally, any structure that has electrical, plumbing, 120 square feet in size, or has people inside will require a permit. The following are natural gas associated buildings that typically require a permit: compressors, storage sheds, housing, offices, fences over 6 feet tall, and structures which require electrical or plumbing. Consistent with county policy, water tanks do not require a building permit.

On-Site Waste Water System (OWTS) Any project that involves a system for the collection, treatment and or disposal of sewage will require approval of an OWTS (previously ISDS) or a vault-and-haul permit. Vault-and-haul disposal is not allowed for operations which will last for more than one year, unless otherwise approved by the Board of County Commissioners.

Grading Permits A permit is required for excavation, grading, or earthwork construction, including fills and embankments. Separate grading permit are not required for projects that are required to receive a Land Use Change Permit, so long as all grading permit requirements are met and addressed as part of the land use permitting process. A grading permit is required for pipelines that are not subject to review under Article 9 of the county's code. A grading permit does not permit the construction of retaining walls or other structures.

County Road Access Permits Any project that involves the construction of a new access to a county road will require approval of an access (driveway) permit by the Garfield County Road and Bridge Department.

Utility Permits Any project that involves the placement of pipelines or other utilities within the right-of-way for a county road will require approval of a utility permit by the Garfield County Road and Bridge Department.

How do all these permits relate?

Garfield County requires all applicable local, state and federal permits be obtained before a Land Use Change Permit is issued and operations can begin, unless precluded by permit requirements. This includes approval from agencies such as Colorado Department of Public Health and Environment (CDPHE), Colorado Department of Transportation (CDOT), and Colorado Oil and Gas Conservation Commission (COGCC). On a project specific basis, certain air quality permits may be required to be submitted after a Land Use Change Permit has been issued.

Please keep in mind that there is no rule that exists that excludes a project or use from county review if it is otherwise being reviewed by the COGCC. For instance, a county permit may be necessary, even if the use such as water tank or gas compressor requires a COGCC Form 2A. In addition, applicants should be aware that while the COGCC does not require stamped and sealed drawing by a Professional Engineer (PE) for Form 2 and 2A submittals, Garfield County does require a PE to stamp and sign various types of submittal documents.

FACILITIES

Indicate the number of each type of oil and gas facility planned on location

Wells _____ Oil Tanks _____ Condensate Tanks _____ Water Tanks _____ Buried Produced Water Vaults _____

Drilling Pits _____ Production Pits _____ Special Purpose Pits _____ Multi-Well Pits _____ Temporary Large Volume Above Ground Tanks _____

Pump Jacks _____ Separators _____ Injection Pumps _____ Cavity Pumps _____

Gas or Diesel Motors _____ Electric Motors _____ Electric Generators _____ Fuel Tanks _____ Gas Compressors _____

Dehydrator Units _____ Vapor Recovery Unit _____ VOC Combustor _____ Flare _____ LACT Unit _____

Pigging Station _____

OTHER FACILITIES

Other Facility Type	Number

Per Rule 303.b.(3)C, description of all oil, gas, and/or water pipelines:

Figure 5: A portion of COGCC Form 2A Checklist

What do I need to know about the Greater Sage-Grouse?

On March 18, 2013, the county adopted a Greater Sage-Grouse Conservation Plan, and on November 17, 2014, adopted the first ammendment to this plan. The purpose of the plan is to provide private and public land owners with land management principles, policies, and best

management practices based on the best available science that are tailored to fit Garfield County’s unique landscape and habitat characteristics for the betterment of the species. When preparing the Environmental Impacts portion of an Impact Analysis (section 4-203.G. of the LUDC), an applicant should incorporate, as appropriate, relevant provisions of the plan, as it will be used by the county in evaluating projects. The plan can be accessed on the county’s website at: <http://www.garfield-county.com/community-development/sage-grouse.aspx>.

For all projects, a determination of the effect on designated environmental resources, including critical wildlife habitat is required. This should be prepared by a qualified wildlife biologist and Colorado Parks and Wildlife (CPW) should be consulted. Generally, CPW recommendations are proposed as conditions of approval for applications.



GARFIELD COUNTY
GREATER SAGE-GROUSE
CONSERVATION PLAN

Adopted: March 18, 2013 (via Resolution 2013-23)
First Amendment to Plan: November 17, 2014 (via Resolution 2014-67)




Garfield County Board of County Commissioners
John Martin, Chairman
Mike Samson
Tom Jankovsky

Figure 6: Conservation Plan

What “use type” is my project?

If you are not sure what specific use type your activity is, the following section provides examples of projects and how Garfield County defines them in terms of the LUDC. Note that many projects may involve a combination of individual (primary or accessory) use types. When a project consists of a combination of uses, the most stringent of the review processes will apply to the project and the project will be considered as a whole.

Bioremediation Land Farm to Treat Exploration and Production Waste

The county uses a general set of terms to handle a wide variety of uses and activities conducted by industry, including terms such as Storage, Processing, and Material Handling. Depending upon the activities proposed to occur as part of the project, a land farm will be reviewed as Processing and may also be reviewed as Storage and Material Handling, depending on the scope and activities associated with the project.

For example, a company could propose a land farm to treat and reuse soils that contains petroleum hydrocarbons in the natural gas development process. The proposal may include hauling soil containing hydrocarbons to a specific property (Material Handling), storing it on-site (Storage), then using the property as a centralized treatment facility for impacted soils from the company’s well sites and other Exploration and Production (E&P) waste facilities. The treatment process might consist of bioremediation land farm cells which use microbes to degrade petroleum hydrocarbons contained within the soils (Processing).

Operation of the land farm provides an environmentally responsible alternative to disposing of the petroleum impacted soils in the local landfill. By remediation of the soils to State of Colorado standards, the company may be able to reuse the soils at other facilities.

Telecommunications Facilities

The county has reviewed and approved a variety of telecommunication facilities that have been constructed with a range of heights and support systems that are located on concrete pads or compacted gravel pads. These facilities, defined by the county as Telecommunication Facilities, are generally unmanned, are with or without guy wiring, may or may not have exterior lighting and have a self-contained electrical supply using solar panels, thermoelectric generator or other power source. Telecommunication facilities 100 feet or less in height proposed to be located in the Resource Lands are by right uses and do not require county land use permitting. If a tower is greater than 100 feet in Resource Lands or is in excess of 40 feet on Rural zoned property, a Land Use Change Permit will be required.

The county generally requires that an approved facility accommodate other users who may want to co-locate equipment at the facility. If the operator is proposing the change out and replacement of equipment on a site that has been previously permitted and no new disturbance is anticipated, then no new permit will be required. However, if additional equipment is being added, the modification may be considered minor and will require review and a decision by the Director.

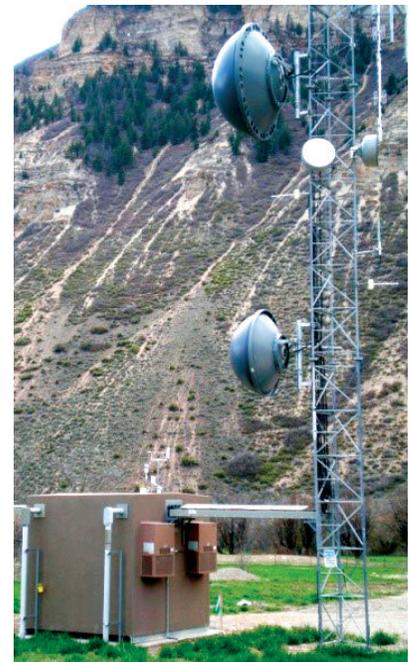


Figure 7: Telecommunications

Compressor/Booster Compressor

Compressors are commonly associated with natural gas transportation within Garfield County. Compressors and compressor stations generally require a Limited Impact Review, while Booster Compressors required an Administrative Review except in the RL zone districts, whereby they are a by-right use. If pipelines include a compressor, the compressor is considered appertunant to the pipeline and is reviewed as part of the Administrative review.



Figure 8: Compressor station



Figure 9: Extraction, mining and other

Construction Materials Mining

Particularly in the Resource Lands Zone District, certain companies have requested approval for projects that entail surface mining of the talus and shale rock on their properties for construction purposes, such as drill pad and access road construction. Industry commonly refers to this activity as construction materials mining, while the county defines this use as Extraction, Mining and Other. Depending upon the scope of the

operations (e.g., if crushing operations are included), additional uses such as Material Handling and Processing may also apply.

Contractor's Yards

Contractors lots that store machinery, equipment and supplies to serve industry-related clients are generally considered a Contractor's Yard. A Contractor's Yard commonly includes an accessory office, maintenance and repair facilities. The county differentiates its review process by the size of the yard. A Contractor's Yard, Small, is a facility in size of five acres or fewer, while a Contractor's Yard, Large, is a facility greater than five acres in size.

Commonly, the county has approved projects where a land owner proposed to lease out an area of the subject property for storage of natural gas equipment, including an office area. Note, the primary difference between Storage and a Contractor's Yard is the latter includes the primary components of a functioning business such as an office, bathroom, and serves as the area where employees come to work leaving their personal vehicles while out on job sites.

Drill Cuttings Storage Facility

With the more common use of closed-loop drilling systems, many companies are utilizing centralized facilities for the management of drill cuttings. If the facility is over 100,000 cubic yards in size it is considered Storage. If the facility also involves treatment (E&P waste) it is considered a bioremediation land farm. Drill cuttings on an approved APD or drill

cuttings that are directly related with Oil and Gas Drilling and Production and are less than 100,000 cubic yards, do not require a Land Use Change Permit.

Laydown Yards/Staging Areas

The county's regulations allow for storage and staging of materials and equipment in various zone districts. These facilities are commonly called laydown yards, pipe yards or staging areas, and are referred to by the LUDC as Storage. Typically these storage areas are proposed by industry as parcels of land that are intended to serve as a central storage area, and are often used to temporarily park drilling rigs and associated natural gas equipment, while not actively drilling on a well pad. Additional equipment generally includes drill pipe, mud pumps, generators, diesel engines, drill collars, pipe racks, and materials used in drilling and other operations. "Storage" facilities may also include buildings that are accessory to the storage use, and that may be subject to the county's building permit requirements. Temporary staging areas associated with a permitted pipeline project should be reviewed as part of the pipeline project.



Figure 10: Natural gas treatment facility

Natural Gas Processing/Treatment Facilities

Where an operator proposes to construct a natural gas processing or treatment facility intended to treat and transport natural gas, it is defined as Material Handling and Processing. These facilities typically include 1) a Master Control Center that houses process control equipment that also provides limited storage for instruments and tools; 2) insulated buildings constructed to house the compressors and generators for the project; and 3) a variety of gas treatment facilities that are intended to condition the gas prior to sending it to market.



Figure 11: Office facilities

Office Facility

Field support and other offices for industry require permitting through the county as either a Professional Office or a Professional Office, Temporary. A temporary office is one that is on-site for less than one year. Both types of offices require building permits, unless the office has been established as a construction trailer associated with an active on-site construction project. This should be verified with a county building official prior to the placement of a construction trailer.

Pipelines

Pipelines are associated with most natural gas activities. If the proposed pipeline is on private (fee simple) property (not public lands) and is either 1) greater than 12 inches in diameter and over two miles in length, or; 2) greater than five miles in length, a Land Use Change Permit will be required. Additionally, if the pipeline traverses both public and private properties, the applicability is applicable only to those portion(s) of the pipeline on private

property. Pipelines also require a separate grading permit unless the land use application includes all pertinent submittal information from the Garfield County International Building Code 2009-Appendix J. A grading permit is required for any land disturbance on private property that is less than 50 cubic yards of earthwork material or 6,000 square feet of graded area, whichever is greater.

If the pipeline includes a compressor, the compressor is considered appertenant to the pipeline and is reviewed as part of the Pipeline Administrative Review process. Additional facilities that are considered appurtenant to pipelines include meter stations, meter runs, separators, pig launchers/slug catchers, and block valves. In addition, temporary staging areas for pipelines can be permitted via the pipeline process.



Figure 12: Pipeline

Roads

Most roadways utilized by industry are intended to provide access to drilling locations and will typically be permitted via the COGCC Application for Permit to Drill (APD). If the roadway is addressed by the APD, a permit is not required from Garfield County. However, if the roadway is not addressed through the APD, a county Grading Permit will be required, and review as an Access Route maybe required if located in a zone district other than Resource Lands.

Temporary Employee Housing

Temporary (removable, Factory Built Nonresidential Structures) housing is allowed during times of housing shortage for habitation by workers who are engaged in a commercial, industrial, mineral extraction or highway operation, and who are needed on-site for the proper execution and safety of the related operation. The county reviews Temporary Employee Housing under three tiers based upon the number of people that will occupy the housing and/or the length of time the housing will be utilized. In general, Small facilities (8 or fewer people) are by-right uses in the county, while both Minor (9 to 24 people) and Major (25 or more people) housing requires a Land Use Change Permit.



Figure 13: Temporary employee housing

Water (Fresh and Produced) Storage Ponds

As natural gas drilling generates large amounts of water from the drilling, completion and production processes as a by-product (also defined by the COGCC as E & P Waste), some operators have preferred to transport this water to storage ponds either for treatment



Figure 14: Surface water impoundment

operations. The county defines these facilities as Water Impoundments. Typically, these are large centralized facilities that serve multiple well drilling or completion operations. An exception to this includes when a pond is located on an approved COGCC Location and the pond is being used only for the drilling and completion activities on that same well pad, the activity is a by-right use.

and discharge, for reuse in drilling and completion processes or for disposal in a disposal well or other permitted methods. Additionally, operators will construct fresh water storage ponds for use in their drilling

Hydraulic Fracturing, Remote Surface Location

A COGCC-approved location that is used for staging materials and equipment to pump hydraulic fracturing fluid to one or more COGCC-approved well locations for the purpose of advancing the wellbore and increasing the productivity of the well through hydraulic fracturing as part of the well completion activity. This use is considered a component of advancing the bore hole and is a by-right use in all zone districts. When the hydraulic fracturing and flow-back operations have been completed, the water handled by these systems will be transported either to another location for reuse or to a disposal facility.

Water (Fresh and Produced) and Condensate Tanks

In addition to water storage ponds, frequently water and condensate are stored in tank batteries. These tanks are considered and reviewed by the county as Water Impoundments unless they are used exclusively for



Figure 15: Storage tanks

activities associated with advancing the borehole as defined by the county as Oil and Gas Drilling and Production and have a total volume of less than 5,000 barrels.

Water Pumping Facility

Permanent facilities used to pump water throughout a company's operations are treated similarly to compressor stations. When the pumping facility is constructed as part of a pipeline project that is subject to the county's pipeline review process, the pumping facility is considered appurtenant to the pipeline and can be included in the application for a pipeline. In those instances where the pumping facility is constructed with a pipeline that is not subject to the county's pipeline review process, or is constructed independent of a

pipeline project, the facility would be classified as a Compressor/Pipeline Pump Station not Subject to Article 9 Review, is subject to a Limited Impact Review.

Water Treatment Facility

As the availability of locations for the disposal of produced water have become more limited, a number of companies are exploring other options for handling this water, including construction and operation of water treatment facilities. As with many other uses, these facilities could be defined as having a combination of uses. In general, these facilities are considered Processing, but may also include Water Impoundment or other uses, depending upon the scope and activities associated with the facility.

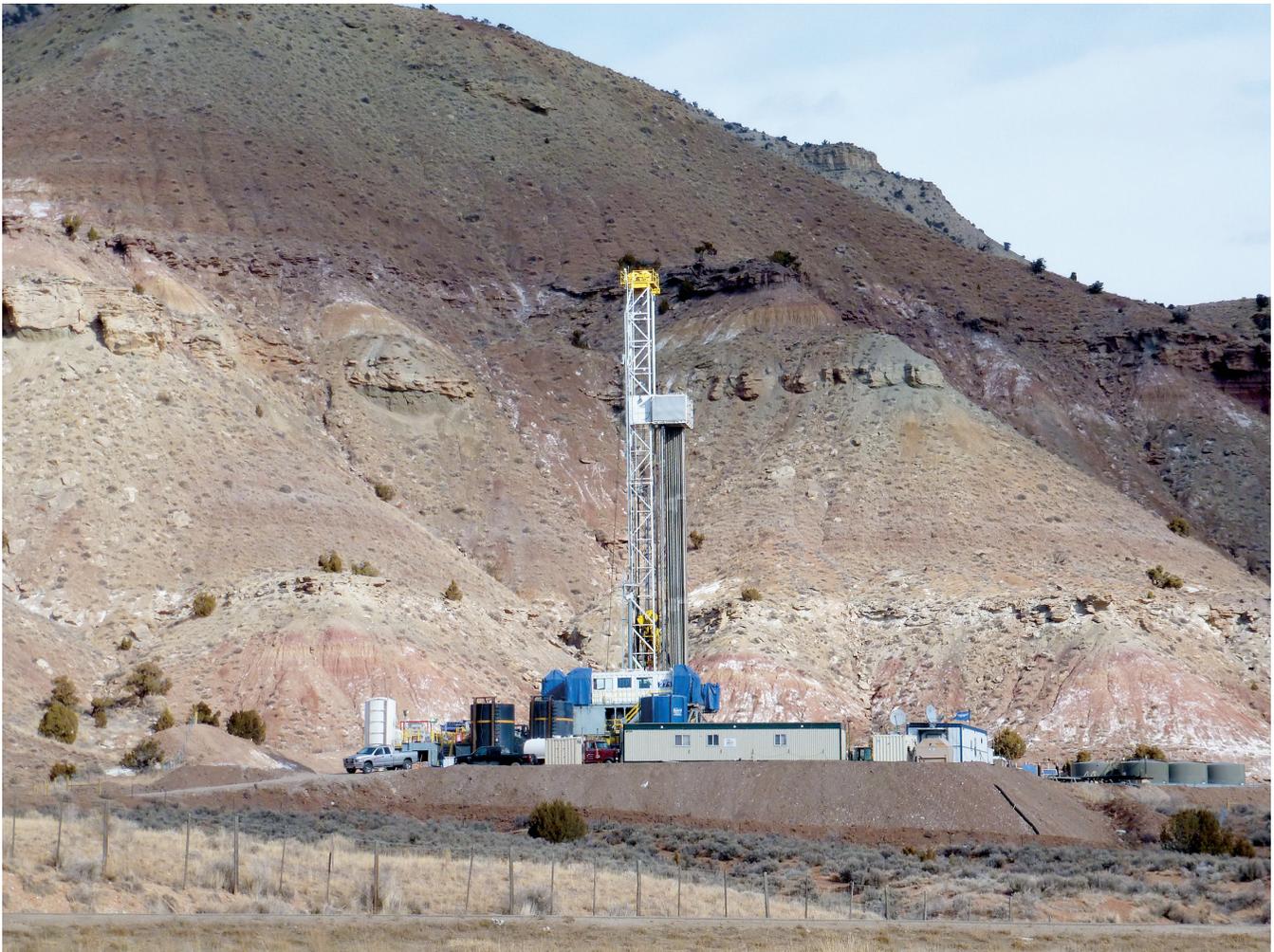


Figure 16: Drilling rig

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Glossary of definitions.

Article 15 of the LUDC contain a complete list of definitions of applicable words and phrases. Some of the definitions that are particularly pertinent to the natural gas industry are provided as follows:

Access Route A way or means of approach to provide safe, adequate and usable physical entrance and exit to a property or use.

Adequate Water Supply A water supply that will be sufficient for build-out of the proposed development in terms of quality, quantity, dependability, and availability, to provide a supply of water for the type of development proposed, and may include reasonable conservation measures and water demand management measures to account for hydrologic variability.

Applicant A person or entity having fee ownership of the subject property and submitting a development application.

Building, Accessory A subordinate building located on the same lot as the principal building, the use of which is incidental to the principal use. Unless otherwise specified in this Code, any Accessory Building is subject to the minimum requirements of the zoning district in which it is located.

Building Permit A permit which is issued by the building official prior to the erection, construction, alteration, moving, relocation, or change of use of any building or structure.

Compatibility The characteristics of different uses or activities or design that allow them to be located near or adjacent to each other in harmony. Compatibility does not mean “the same as.” Rather, compatibility refers to the sensitivity of development proposals in maintaining the character of existing development.

Compressor, Booster Typically consists of a single compressor unit located on an existing well pad and is generally skid mounted. Multiple well pads may require additional booster compressor units. Booster compressors are commonly used for artificial lift to add gas velocity.

Compressor/Pipeline Pump Station An installation consisting of equipment utilized to increase pipeline pressures, and monitor operating conditions, and associated control equipment in order to move gas and/or liquids in pipelines.

Contractor’s Yard, Large The use of land for the purpose of storing machinery, equipment, and supplies for an individual business that may include office, maintenance, and repair

facilities that provide services to clients through the use of the machinery, equipment, or supplies that is on a site greater than five acres. Site size shall be measured by drawing a box(es) around the perimeter of the Contractor's Yard and calculating the resulting area.

Contractor's Yard, Small The use of land for the purpose of storing machinery, equipment, and supplies for an individual business that may include office, maintenance, and repair facilities that provide services to clients through the use of the machinery, equipment, or supplies, that is on a site up to five acres in size. Site size shall be measured by drawing a box(es) around the perimeter of the Contractor's Yard and calculating the resulting area.

Extraction To draw out or forth; hence to derive as if by drawing out; removal of physical matter in a solid or liquid state from its naturally occurring location; the initial step in utilization of a natural resource. Examples include shale and coal mines, gravel pits, and timber cutting.

Hydraulic Fracturing The process of creating small cracks or fractures in the underground geological formations by using a controlled high pressure injection of fluid or proppant (usually sand) to allow oil or natural gas to flow into the wellbore and thereby increasing productivity of the well.

Hydraulic Fracturing, Remote Surface Facility A COGCC-approved surface location used for staging materials and equipment to pump hydraulic fracturing fluid to 1 or more COGCC-approved well locations, for the purpose of advancing the wellbore and increasing the productivity of the well through hydraulic fracturing as part of the well completion activity.

Impact The direct or indirect effect or consequence resulting from a development upon land, the environment, the community, or any part or segment thereof. The term shall include, but not be limited to, physical, environmental, economic, visual, auditory, or social consequences or effects.

Industrial Vehicles, Machinery and Heavy Equipment The business of selling or leasing vehicles, machinery or heavy equipment used in industrial activities.

Injection Well A well on a COGCC-approved well location that is used for pumping water or other fluids from the surface into a reservoir.

- A. Injection Well, Piped** An Injection Well, where fluids are transported to the well location solely by pipeline, and that has no appurtenant and accessory on-pad tanks.
- B. Injection Well, Small** An Injection Well with less than 5,000 barrels of appurtenant and accessory on-pad tanks.
- C. Injection Well, Large** An Injection Well with 5,000 barrels or greater of appurtenant and accessory on-pad tanks.

Material Handling To load and unload in bulk industrial or commercial goods, materials, and products. Material Handling excludes extraction, processing, fabrication, or storage of such goods, materials and products, and also excludes a transfer station for construction waste including wood, drywall, metals, paper, plastic, and other types of construction materials.

Oil and Gas Drilling and Production A COGCC-approved location utilizing equipment that advances a borehole into substrata for the purpose of discovery, development, and/or production of oil or gas, including all surface facilities associated with such operations. These facilities include produced water pits or tanks and condensate tanks with a total tank volume of 5,000 barrels or fewer, storage, separation, treating, dehydration, power supply, pumping, metering, monitoring, flowline, drill cuttings with a total volume of 100,000 cubic yards or fewer, and other equipment directly associated with oil and gas wells. These facilities exclude all uses that are otherwise specifically defined by this Code.

On-Site Wastewater Treatment System A compartmentalized water treatment system associated with an approved OWTS permit, previously called an ISDS permit. This system is intended to treat, neutralize, stabilize, and dispose of sewage that is not part of or connected to a sewage treatment works.

Permitted Site As it pertains to Temporary Employee Housing, a parcel of land, generally a portion of a lot, designated for a commercial, industrial, mineral extraction, or highway operation, for which a Federal or State permit is issued. To meet the definition of Permitted Site, such permit must grant the approval of the appropriate state or federal agency for the commercial, industrial, extraction, or highway activity(ies), and must require the provision of security for the reclamation (including revegetation) of the site.

Pipeline Any conduit and appurtenant facilities designed for, or capable of, transporting natural gas, other petroleum derivatives, or other liquid. Pipelines regulated, licensed, or permitted under Federal regulations as interstate transmission lines, CDOT regulations as regulated transmission pipelines, or State regulations as flowlines, are excluded from this definition.

Processing To subject to some special process or treatment as in the course of manufacture; change in the physical state or chemical composition of matter; the second step in utilization of a natural resource. Examples include petroleum refining, oil shale crushing, retorting and refining, ore smelting, coal crushing and cleaning, saw mills, alfalfa pellet mills, food canning or packing, creation of glass, ceramic or plastic materials, gravel crushing, cement manufacture batch plants, refinery, and natural resource upgrade facility.

Storage An area used for storing machinery, equipment, minerals or other products that may have accessory uses, such as an office used for administrative or security purposes. Storage may include a laydown yard as generally associated with oil and gas operations.

Storage, Hazardous Materials The act of storing hazardous waste that requires a special state or federal permit.

Telecommunication Facility A non-inhabitable structure supporting antennas and microwave dishes that sends and/or receives radio frequency signals, including television and data impulses through space by means of electromagnetic waves. Telecommunication Facilities include structures or towers and Accessory Buildings. Individual/personal direct-to-home satellite services are not included in the definition of Telecommunication Facility.

Temporary For a duration of 1 year or less.

Temporary Employee Housing Facility During times of housing shortage or in remote locations, the use of Factory Built Nonresidential Structures (as defined under C.R.S. § 24-32-3301, as amended, and Resolution #35 of the Colorado State Housing Board) utilized for a period of time not longer than 1 year or as otherwise specified, for workers who are engaged in commercial, industrial, mineral extraction, or highway operations and who are needed to support the proper execution and safety of the related operations. Temporary Employee Housing, shall not include Recreational Vehicles, except in a Small Facility.

Temporary Housing Facilities, Major Major Temporary Employee Housing Facilities, also referred to as “Major Facilities,” shall have at least 1 of the following basic characteristics: Major Facilities or any associated infrastructure (including OWTS) that are not completely contained within a state or federally-regulated parcel (such as a Colorado Oil and Gas Conservation Commission (COGCC)-approved oil/gas well pad) in which reclamation and revegetation standards are guaranteed by contract with the permitting agency;

- A. The Major Facilities are to be located at the Permitted Site for more than a cumulative of 1 year; or
- B. The Major Facility has occupancy of 25 people or more who are employees, contractors, or subcontractors of the operator of the Major Facility and are supporting proper execution and safety of the related commercial, industrial, extraction, or highway operations.

Temporary Housing Facilities, Minor Minor Temporary Housing Facilities, also referred to as “Minor Facilities,” shall have all of the following basic characteristics:

- A. The Minor Facility and any associated infrastructure must be completely contained within a State or Federally-permitted parcel (i.e. COGCC-approved oil/gas well pad) in which reclamation and revegetation are secured with the permitting agency (Permitted Site);
- B. The Minor Facility is located at the Permitted Site for less than a cumulative of 1 year; and
- C. The Minor Facility shall have occupancy of 9 to 24 people who are employees, contractors, or subcontractors of the operator and are supporting the proper execution and safety of the related commercial, industrial, extraction, or highway operations.

Temporary Housing Facilities, Small Small Temporary Housing Facilities, also referred to as “Small Facilities,” shall have all of the following basic characteristics:

- A.** The Small Facility and any associated infrastructure must be completely contained within a state or federally-permitted parcel (such as a COGCC-approved oil/gas well pad) in which reclamation and revegetation are secured with the permitting agency (Permitted Site);
- B.** The Small Facility is located at the Permitted Site for less than a cumulative of 1 year and at the end of the utilization period, all structures, foundations, and associated infrastructure are completely removed; and
- C.** The Small Facility shall have an occupancy of 8 or fewer people who are employees, contractors, or subcontractors of the operator of the small facility and are needed for on-site safety of the related commercial, industrial, extraction, or highway operation.

Temporary Employee Housing Operator The individual or entity that is the permittee under the state or federal permit for the Permitted Site and is, therefore, legally responsible for installation, hook-up, operation, and removal of Factory Built Nonresidential Structures (as defined under C.R.S. § 24-32-3301 and Resolution No. 35 of the Colorado State Housing Board) and/or Recreational Vehicles and all associated infrastructure used in a Small, Minor, or Major Temporary Employee Housing Facility.

Use, Accessory A use that is customarily supportive, secondary, and subordinate to a principal use on the same parcel.

Use, Principal The primary purpose or function for which a parcel or structure is used, which may include multiple uses.

Vehicle Safety Area, Large An area outside of the public right-of-way greater than 4 acres in size utilized for vehicle preparation in the event of inclement weather. The area may be used for the application of snow-chains/mud-chains, equipment inspections, and other vehicle safety related activities.

Vehicle Safety Area, Small An area outside of the public right-of-way 4 acres or less in size utilized for vehicle preparation in the event of inclement weather. The area may be used for the application of snow-chains/mud-chains, equipment inspections, and other vehicle safety related activities.

Water Impoundment Confined water such as surface pits or ponds, wastewater treatment settling ponds, surface mining ponds, detention and retention ponds, artificial lakes and ponds (not related to agriculture), and produced water and condensate tanks. Water impoundment excludes tanks with a total tank volume of 5,000 barrels or fewer used exclusively for activities associated with Oil and Gas Drilling and Production, and Injection Wells.

Water Reservoir A natural or artificial place where water is collected and stored for use, especially water for supplying a community, irrigating land, and furnishing power.

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